(19) World Intellectual Property Organization International Bureau



. (EBBA BINATA) NETONA (BINEBANA BINEBAN) NI NI BINEBANI BINEBANI BINEBANI BINEBANI BINEBANI BINEBANI BINEBANI

(43) International Publication Date 19 May 2005 (19.05.2005)

PCT

(10) International Publication Number WO 2005/045506 A1

(51) International Patent Classification:

G02B 26/08

(21) International Application Number:

PCT/KR2004/002843

(22) International Filing Date:

5 November 2004 (05.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10-2003-0078906

8 November 2003 (08.11.2003) KR

10-2003-0081007

17 November 2003 (17.11.2003) KR

10-2003-0081004

17 November 2003 (17.11.2003) KR

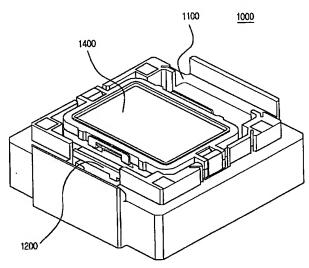
(71) Applicant (for all designated States except HYSONIC CO, LTD [KR/KR]; 202, Business Incubator Center,, Hanyang University, 1271,, Sal-dong, Sangnok-gu, Ansan-si,, Kyeonggi-do 425-791 (KR).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): OH, Hyeong-Ryeol [KR/KR]; 103-704 Daelim Apt., 411, Sangdo-dong,, Dongjak-gu,, Seoul 156-030 (KR). RYU, Jae-Wook [KR/KR]; 101-2001 Keangnam Apt., Dogok 1-dong,, Gangnam-gu,, Seoul 135-271 (KR).
- (74) Agent: NAM, Sang-Sun; 9th Fl., Maekyung Media Center,, 30, 1-Ga, Pil-Dong,, Jung-Ku, Seoul 100-728 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

[Continued on next page]

(54) Title: PRECISELY ACTUATING MEMBER AND IMAGE TILTING DEVICE AND PROJECTION SYSTEM HAVING THEM



(57) Abstract: The present invention relates to a precisely actuating having them, more particularly, to a projections system comprising a precisely actuating member formed in a one-piece unit to permit a precise rotation movement, an image tilting device for increasing the resolution by precisely adjusting the angle of an image, and a projection system having them. The image tilting device according to the preferred aspect of the present invention comprises a casing. The precisely actuating member is housed in the casing to be integrated therewith for precise reciprocation. A driving member contacts to the precisely actuating member for the movement of the actuating member. is A light path conversion member is located on the precisely actuating member to convert the light path by a precise movement member and an image tilting device and a projection system



WO 2005/045506 A1



FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

with international search report